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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,555	03/04/2002	Kanwal K. Raina	M4065.0206/P206A	7943
24998	7590	10/04/2005	EXAMINER	
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP			GUHARAY, KARABI	
2101 L Street, NW			ART UNIT	
Washington, DC 20037			PAPER NUMBER	

2879

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/086,555

Applicant(s)

RAINA, KANWAL K.

Examiner

Karabi Guharay

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on RCE, filed on 8/15/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12-17, 19-29 and 31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-17 & 19-23 is/are allowed.
- 6) ☒ Claim(s) 24-29 and 31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 15 August 2005, has been entered.

Amendments of claims 19-23 overcome the rejection of claims 19-23 under 35 USC 112 second paragraph.

***Claim Objections***

Claim 31 is objected to because of the following informalities: Claim 31 includes the same limitations twice and makes the claim inconsistent. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 24-29, & 31 are rejected under 35 U.S.C. 102(e) as being anticipated by Sandhu et al. (US 6086442).

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The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 24, 27, 28 & 31, Sandhu et al. disclose a field emission display device (Fig 3) comprising at least one current emitter (48) (lines 20-22 of column 2) having sides, and having a top (tip of the emitter 48) and bottom (base of the emitter 48), bottom or base of the emitter is formed of a doped silicon, a substrate (60) having a phosphor coating (62) in at least one region positioned to receive electrons from the current emitter (lines 46-57 of column 4), the current emitter comprising a surface treated focal point (the tip of the emitter) wherein the focal point (tip of the current emitter) emits current wherein the tip of the emitter or the focal point comprises nitrogen (focal point or tip of the emitter contain metal layer 56, which is treated with nitrogen plasma, thus nitrogen infused on the surface, lines 11-25 of column 3), and wherein at least a portion of the sides of the at least one emitter(48) is surrounded at least in part by an insulating layer (50, see Figs 1-3).

Regarding claim 25, though Sandhu et al. do not explicitly disclose that the current emission surface has atomic concentration of oxygen and silicon reduced to values smaller than the atomic concentration of oxygen and silicon of the current surface subjected to atmospheric conditions, Sandhu discloses plasma enhanced chemical vapor deposition process followed by nitrogen infusion process so that metal nitride is formed on the surface thus inherently has atomic concentration of oxygen and silicon reduced to values smaller than the atomic concentration of oxygen and silicon of

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the current surface subjected to atmospheric conditions, silicon layer when exposed to atmospheric conditions forms oxides (silicon dioxide) while in Sandhu's device for the presence of metal nitride layer oxidation cannot occur in Sandhu's emitter surface.

Regarding claims 26 & 29, Sandhu et al. disclose a field emission display device (Fig 3) comprising an array of current emitter (48) having sides, a substrate (60) having a phosphor coating (62) in at least one region positioned to receive electrons from the current emitter (lines 46-57 of column 4), the current emitter comprising an emission focal point (tip of the emitter) comprising doped silicon infused with nitrogen (treated with nitrogen plasma, thus nitrogen infused or deposited on the surface, lines 11-25 of column 3), and wherein portion of the sides of the emitter (48) below the tip is surrounded at least in part by an insulating layer (50, see Figs 1-3).

#### ***Allowable Subject Matter***

Claims 12-17 & 19-23 are allowed over the prior art of record.

Reasons for allowance of above claims are presented in office action mailed on 6/16/05.

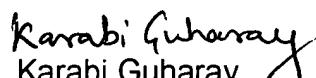
#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (571) 272-2452. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Karabi Guharay  
Primary Examiner  
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